

## LIMITED KNOWLEDGE RELATED-CHALLENGES OF ARTIFICIAL INTELLIGENCE IN BUSINESS AND ENTREPRENEURSHIP EDUCATION RESEARCH

**Augustina Chinweoke Anyigor-Ogah (Ph.D)**

Department of Business Education, Faculty of Education,  
Ebonyi State University, Abakaliki, PMB 53. Ebonyi State, Nigeria  
Email: [austking4real@yahoo.com](mailto:austking4real@yahoo.com)  
08066828128

### Abstract

*This paper studied limited knowledge related-challenges of artificial intelligence in business and entrepreneurship education research. Three research questions and three null hypotheses guided the study. The study adopted a descriptive survey design. The population of the study comprised 41 business educators in tertiary institutions in Ebonyi State, Nigeria. Census survey sampling technique was used. A structured questionnaire was used. The questionnaire was validated by three experts, two from Business Education Department and one from Measurement and Evaluation, all from Ebonyi State University, Abakaliki. Cronbach Alpha reliability procedure was used. The instrument yielded a reliability coefficient of 0.82. Forty one (41) copies of the instrument were administered to the respondents and retrieved. Data collected was analyzed using mean and standard deviation for research questions while the hypotheses were tested at 0.05 level of significance using t-test. The findings of the study found that the respondents accepted limited Knowledge related-challenge of paraphrasing AI, citation management AI and data analytic AI in business and entrepreneurship education research. The test of the hypotheses proved that there is no significant difference in the opinion of male and female respondents regarding the limited knowledge-related challenge of paraphrasing AI, citation management AI and data analytic AI in Business and Entrepreneurship Education Research. In conclusion, business and entrepreneurship education researchers in the study area had limited knowledge of Artificial Intelligence (AI) for research. The recommendation among others was that awareness programmes should be organized to business and entrepreneurship education researchers to ensure comprehension of AI concept, use cases and potential effects.*

**Keywords:** Artificial Intelligence (AI), Business and Entrepreneurship Education, Research, Limited Knowledge, Related-Challenges

### Introduction

In today's academic landscape, Artificial Intelligence (AI) is already commonplace in all endeavour and is no longer the only purview of futurologist. The term Artificial Intelligence (AI) is often used as an umbrella term for multiple technologies; business analytic and data science; natural language processing, speech recognition and text-to-speech; machine learning, deep learning, and neural networks, machine reasoning, decision, and algorithms; computer vision; robots and sensors (Yaroshenko, & Yaroshenko, 2023; Williams & Lowendahl, 2018). The above definition shows that AI technology can perform tasks that would otherwise required human intelligence or intervention. Russel, Norvig, Popineau, Miclet, and Cadet, (2021) defined AI to describe systems that mimic cognitive functions generally associated with human attributes such as learning, speech, and problem-solving. AI technology enables computers and machines to stimulate human intelligence and problem solving capabilities. In this study, paraphrasing AI, Citation management AI and data analytic AI were examined.

Paraphrasing AI is technology that helps users or writers rephrase their ideas, text, sentences, or paragraphs into exciting and engaging content without losing its original content. Martin (2024),

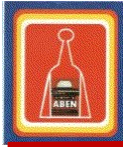


Mahajan (2023), Begum (2024) and Birett (2022) listed the following as the paraphrasing AI to include: QuillBot, Jasper AI, Rytr, Scalenut, Content Shake, Word AI, Copy AI, CopySmith, Hypotenuse AI, Hix.AI, Wordtune, Grammarly, Paraphraser.01, SpinBot, Writesonic, Semrush, Spinnerchief, PrepostSED, AISED and Editpad. Mahajan (2023) stated that paraphrasing AI offers a wide range of synonyms and alternative phrases, helping users diversify their vocabulary and enhance the overall quality of their writing. This improves the readability and engagement of content and helps evade plagiarism detection tools. Martin (2024) added that, paraphrasing AI saves researchers a significant amount of time compared to manually recording of sentences or paragraphs. He added that in a matter of seconds, these tools can generate alternative versions of the original text, eliminating the need for manual editing and proofreading. Begum (2024) stated that paraphrasing AI technology makes an invaluable resource for individuals and professional aiming to produce high-quality and original written content. Furthermore, Birrett (2022) included that those technologies utilize advanced algorithms and machine learning techniques to provide efficient and accurate paraphrasing services.

Citation management AI refers to technology that can automate the citation process, making it easier and faster to format references correctly. It is used to find sources, identify the correct citation style, and ensure that citations are accurate. There are numerous technologies that can be used for citation. Some of the most popular technology according to Somasundaram (2023) and Tsai (2024), includes: Trinka AI, Scholarcy, Semantic Scholar, Paper Digest, Scite AI, Samwell AI, ChatGPT, Iris AI, Citationcy, Sci AI, Citesmart, Kudos, Docear4Word, Qiqqa, Cite This For Me, COMBOT, EndNote and Check. It is more important than ever to be able to cite source correctly. This is because plagiarism is a serious offense, and it can have serious consequences for researchers. Tsai (2024) stated that proper citation management plays a crucial role in academic writing as it acknowledges the contribution of other researchers and allows researchers to access the sources referenced. Accurate citation also helps avoid plagiarism which is a serious ethical offense in scholarly work. Tsai added that manually formatting and organizing citations can be a time-consuming task. He stated that this is where AI citation management technologies come to rescue.

Somasundaram (2023) noted that the consequences of inadequate reference and citation management are far-reaching. He added that researchers may inadvertently misattribute ideas or fail to give proper credit to the original authors, leading to issues of plagiarism or intellectual dishonesty. Moreover, lack of structural reference management system can result in a loss of productivity, as valuable time is wasted on manually sorting through citations and formatting according to different citation styles. This not only hampers the researcher's efficiency but also affects the quality and reliability of their work. Therefore, in the fast-paced world of academic and research, proper citation management is essential for maintaining the integrity and credibility of scholarly work.

Data analytic AI on the other hand, refers to applying technology, techniques and algorithms to process, interpret, and derive meaningful insight from large and complex datasets. The following as listed by Owens (2024), Sharma (2024), and Alvarado (2024), are the data analytic AI includes: Polymer, Tableau, MonkeyLearn, Micropower BI, Sisense, Microsoft Excel, Ch, DataRobot, Talent, H2O.ai, Akkio, Qlik, Looker, SAP Business Objects, Answer Rocket, KNIME, Rapidminer, Pytorch, IBM Watson Analytics, Microsoft Azure Machine Learning, Coefficient, and Bardeen.ai. Sharma (2024) these AI uses machine learning, deep learning, and other AI technologies to automate analysis, identify patterns, and make predictions or classifications. Owen (2024) highlighted that AI data analysis enables researchers to extract valuable information from vast data more efficiently and accurately. Alvarado (2024) opined that by leveraging AI



capabilities, such as natural language processing, image recognition, and anomaly detection, researchers can gain a deeper understanding, make data-driven decisions, and unlock hidden opportunities for growth of research. Therefore, by utilizing the best AI, researchers can focus more on their research and contribution of knowledge in business and entrepreneurship education

Business and Entrepreneurship Education which is synonymous to business education according to Anyigor-Ogah (2024) is an educational programme that embraces basic education for teaching career, entrepreneurship, business understanding, office environment and vocational practices. Business and entrepreneurship education is a programme of studies, which comprises four parts: creating awareness in occupation; preparing youth for work in business occupation, preparing people to become better citizens and consumers of goods and services; preparing business and entrepreneurship teachers (Azuka and Nwosu in Anyigor-Ogah & Okoli, 2022; Anyigor-Ogah 2023a). Business and Entrepreneurship Education is that aspect of general education that prepares students for employment and advancement in a broad range of office occupations, accounting occupations, and entrepreneurship venture (Onukpanu in Anyigor-Ogah 2024). The above definition of business and entrepreneurship education depicts that the discipline is robust which required numerous research activities by both male and female researchers.

Therefore, business and entrepreneurship education research presents opportunities to undertake some considerable piece of investigation regarding the discipline. Although, there are numerous opportunities in business and entrepreneurship education research were AI technology can serve as a superior alternative to traditional systems, limited knowledge related-challenge of AI remains a significant barriers to its widespread adoption. The real problem lies in the general understanding and knowledge of AI. Limited knowledge among the the general population is one of the critical issues imparting informed decision, adoption, and regulation, misconceptions and interpretations of AI's abilities and constraint multiply, holding back its responsible use and promotion. Therefore, this study, examined the limited knowledge related-challenge of paraphrasing, citation management and data analytic AI in business and entrepreneurship education research.

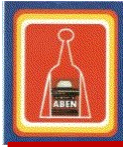
### **Research Questions**

1. What is limited knowledge-related challenge of paraphrasing AI in Business and Entrepreneurship Education Research?
2. What is limited knowledge-related challenge of citation management AI in Business and Entrepreneurship Education Research?
3. What is limited knowledge-related challenge of data analytic AI in Business and Entrepreneurship Education Research?

### **Hypotheses**

The following hypotheses were tested at 0.05 level of significance:

- H0<sub>1</sub>:** There is no significant difference in the mean responses of the male and female business educators on the limited knowledge-related challenge of paraphrasing AI in Business and Entrepreneurship Education Research
- H0<sub>2</sub>:** There is no significant difference in the mean responses of the male and female business educators on the limited knowledge-related challenge of citation management AI in Business and Entrepreneurship Education Research.
- H0<sub>3</sub>:** There is no significant difference in the mean responses of the male and female business educators on the limited knowledge-related challenge of data analytic AI in Business and Entrepreneurship Education Research



**Methodology**

Descriptive survey design was adopted for the study. The area of the study was Ebonyi State comprising three tertiary institutions offering business education namely: Ebonyi State University Abakaliki, Ebonyi State College of Education, Alex Ekwueme Federal University, Ndufu-Alike Ikwo. The population of the study comprised 41 business educators which was made up of 24 male and 17 female in the three institutions: Ebonyi State University 14, Ebonyi State College of Education 14, and Alex Ekwueme Federal University, Ndufu-Alike Ikwo 13. The data for the study was collected using a structured questionnaire. The questionnaire consisted of 53 items. The instrument was validated by three experts; two from business education and one from Measurement and Evaluation, all from Ebonyi State University, (EBSU) Abakaliki. The instrument was also subjected to a reliability test, and yielded reliability co-efficient of 0.82. Forty one (41) duly completed copies of the instrument were administered, retrieved and used for the study. Mean and standard deviation were used to answer the research questions, while the hypotheses were tested using t- test. Decisions on the research questions were based on the grand mean. Therefore, items with mean ratings of below 2.50 were rated not accepted, while those with 2.50 and above were rated accepted. For hypotheses, if the calculated t-value is equal to or greater than the critical t-value, it will be rejected. If otherwise, it will be accepted.

**Results**

**Research Question 1**

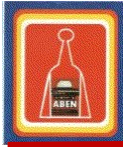
What is limited knowledge-related challenge of paraphrasing AI in Business and Entrepreneurship Education Research?

Data collected to answer the above research question are presented in Table 1

Table 1 shows that the mean scores on all the 20 items on limited knowledge related-challenge of

**Table 1: Respondents Mean Ratings on the Limited Knowledge Related-challenge of Paraphrasing AI in Business and Entrepreneurship Education Research**

| S/N               | Related-Challenges of Paraphrasing AI: | X           | SD   | Remark        |
|-------------------|--|-------------|------|---------------|
| 1                 | Limited knowledge of Jasper AI         | 3.20        | 0.64 | Accept        |
| 2                 | Limited knowledge ofHytr               | 3.60        | 0.43 | Accept        |
| 3                 | Limited knowledge ofScalenut           | 3.70        | 0.42 | Accept        |
| 4                 | Limited knowledge ofContentshake       | 3.54        | 0.48 | Accept        |
| 5                 | Limited knowledge ofWord AI            | 3.24        | 0.56 | Accept        |
| 6                 | Limited knowledge ofCopysmith          | 3.50        | 0.50 | Accept        |
| 7                 | Limited knowledge ofHypotenuse         | 3.36        | 0.54 | Accept        |
| 8                 | Limited knowledge ofCopy.ai            | 3.20        | 0.47 | Accept        |
| 9                 | Limited knowledge ofHix.AI             | 3.14        | 0.76 | Accept        |
| 10                | Limited knowledge ofQuillBot           | 3.25        | 0.73 | Accept        |
| 11                | Limited knowledge ofWordtune           | 3.08        | 0.68 | Accept        |
| 12                | Limited knowledge ofGrammarly          | 2.49        | 0.68 | Accept        |
| 13                | Limited knowledge ofParagraph.oi       | 3.22        | 0.70 | Accept        |
| 14                | Limited knowledge ofSpinBot            | 3.15        | 0.62 | Accept        |
| 15                | Limited knowledge ofWritesonic         | 3.44        | 0.65 | Accept        |
| 16                | Limited knowledge ofSemrush            | 3.07        | 0.78 | Accept        |
| 17                | Limited knowledge ofSpinner Chief      | 3.45        | 0.60 | Accept        |
| 18                | Limited knowledge ofPre post SED       | 3.48        | 0.50 | Accept        |
| 19                | Limited knowledge ofAISED              | 3.13        | 0.72 | Accept        |
| 20                | Limited knowledge of Edithpad          | 3.37        | 0.77 | Accept        |
| <b>Grand Mean</b> |  | <b>2.78</b> |      | <b>Accept</b> |



paraphrasing AI ranged between 2.69 – 3.70 which indicate that the respondents accepted those items as limited Knowledge related-challenge of paraphrasing AI in business and entrepreneurship education research. The cluster had a grand mean score of 2.78 which confirms the results. The standard deviations for all items are within the same range showing that there is homogeneity amongst responses indicating a greater consensus of opinion.

**Research Question 2**

What are limited knowledge-related challenge of citation management AI in Business and Entrepreneurship Education Research

Data collected to answer the above research question are presented in Table 2

**Table 2: Respondents Mean Ratings on the Limited Knowledge Related-Challenge of Citation Management AI in Business and Entrepreneurial Education Research**

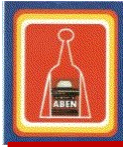
| S/N               | Related-Challenges of Citation Management AI: | X           | SD   | Remark        |
|-------------------|---|-------------|------|---------------|
| 21                | Limited knowledge of Trinka AI                | 3.77        | 0.51 | Accept        |
| 22                | Limited knowledge of Scholarcy                | 2.94        | 0.84 | Accept        |
| 23                | Limited knowledge of Semantic scholar         | 3.48        | 0.64 | Accept        |
| 24                | Limited knowledge of Paper Digest             | 3.97        | 0.56 | Accept        |
| 25                | Limited knowledge of Scite AI                 | 3.52        | 0.59 | Accept        |
| 26                | Limited knowledge of Samwell.ai               | 3.40        | 0.77 | Accept        |
| 27                | Limited knowledge of ChatGPT                  | 3.35        | 0.83 | Accept        |
| 28                | Limited knowledge of Connected Paper          | 3.42        | 0.72 | Accept        |
| 29                | Limited knowledge of Enago Read               | 3.29        | 0.84 | Accept        |
| 30                | Limited knowledge of Mendeley                 | 2.55        | 0.77 | Accept        |
| <b>Grand Mean</b> |   | <b>3.36</b> |      | <b>Accept</b> |

Table 2 shows that the mean scores on items 21 - 30 on limited knowledge related-challenge of citation management AI ranged between 2.55 – 3.77 which indicate that the respondents accepted those items as limited knowledge related-challenge of citation management AI in business and entrepreneurship education research. The cluster had a grand mean score of 3.36 which confirms the results. The standard deviations for all items are within the same range showing that there is homogeneity amongst responses indicating a greater consensus of opinion.

**Research Question 3**

What are limited knowledge-related challenge of data analytic AI in Business and Entrepreneurship Education Research

Data collected to answer the above research question are presented in Table 3



**Table 3: Respondents Mean Ratings on the Limited Knowledge Related-Challenge of Data Analytic AI in Business and Entrepreneurship Education Research**

| S/N               | Related-Challenges of Data Analytic AI:              | X            | SD   | Remark        |
|-------------------|--|--------------|------|---------------|
| 31                | Limited knowledge ofJasperPolymer                    | 3.05         | 0.76 | Accept        |
| 32                | Limited knowledge ofTableau                          | 3.20         | 0.62 | Accept        |
| 33                | Limited knowledge ofMicrosoft Power BI               | 2.85         | 0.96 | Accept        |
| 34                | Limited knowledge ofMonkyLearn                       | 3.08         | 0.56 | Accept        |
| 35                | Limited knowledge ofSisense                          | 3.56         | 0.62 | Accept        |
| 36                | Limited knowledge ofMicrosoft Excell                 | 3.60         | 0.72 | Accept        |
| 37                | Limited knowledge ofAkkio                            | 3.30         | 0.90 | Accept        |
| 38                | Limited knowledge ofQlik                             | 3.70         | 0.46 | Accept        |
| 39                | Limited knowledge ofLookers                          | 3.85         | 0.67 | Accept        |
| 40                | Limited knowledge of SAP Business Object             | 3.64         | 0.56 | Accept        |
| 41                | Limited knowledge ofAnswer Rocket                    | 3.15         | 0.86 | Accept        |
| 42                | Limited knowledge ofKNIME                            | 3.11         | 0.92 | Accept        |
| 33                | Limited knowledge ofRipidminar                       | 3.26         | 0.88 | Accept        |
| 44                | Limited knowledge ofMicrosoft Azure Machine Learning | 3.42         | 0.86 | Accept        |
| 45                | Limited knowledge ofGoogle Cloud AutoML              | 3.48         | 0.65 | Accept        |
| 46                | Limited knowledge ofPyTorch                          | 3.19         | 0.99 | Accept        |
| 47                | Limited knowledge ofData Robot                       | 3.04         | 0.90 | Accept        |
| 48                | Limited knowledge ofTalent                           | 3.60         | 0.75 | Accept        |
| 49                | Limited knowledge ofH20.ai                           | 3.44         | 0.72 | Accept        |
| 50                | Limited knowledge ofIBM Waston Analytics             | 2.67         | 0.86 | Accept        |
| 51                | Limited knowledge ofCoefficient                      | 3.88         | 0.97 | Accept        |
| 52                | Limited knowledge ofBardeen.ai                       | 3.86         | 0.98 | Accept        |
| 53                | Limited knowledge ofIBM Cognos Analysis              | 3.75         | 0.98 | Accept        |
| <b>Grand Mean</b> |  | <b>3.377</b> |      | <b>Accept</b> |

Table 3 shows that the mean scores on items 31 - 53 on limited knowledge related-challenge of data analytic AI ranged between 2.67 – 3.88 which indicate that the respondents accepted those items as limited Knowledge related-challenge of data analytic AI in business and entrepreneurship education research. The cluster had a grand mean score of 2.78 which confirms the results. The standard deviations for all items are within the same range showing that there is homogeneity amongst responses indicating a greater consensus of opinion.

### Test of Hypotheses

**HO<sub>1</sub>:** There is no significant difference in the mean responses of the male and female business educators on the limited knowledge-related challenge of paraphrasing AI in Business and Entrepreneurship Education Research

Data collected to test hypothesis 1 are presented in Table 4.



**Table 4: Summary of t-test Analysis of the Mean Responses of the Respondents on the Limited Knowledge Related-Challenge of Paraphrasing AI**

| Variables | N  | X    | SD   | DF | <u>t-cal</u> | t-crit | Decision  | Remark |
|-----------|----|------|------|----|--------------|--------|-----------|--------|
| Male      | 24 | 3.35 | 0.64 | 39 | 0.44         | 2.04   | Accept HO | NSD    |
| Female    | 17 | 3.32 | 0.65 |    |              |        |           |        |

Table 4 above reveals t-calculated value of 0.44 and t-critical of 2.04 at 39 degree of freedom. From the table, since the t-calculated is less than the critical t-value, the researcher upholds the null hypothesis and concludes that there is no significant difference in the opinion of the male and female respondents regarding the limited knowledge-related challenge of paraphrasing AI in Business and Entrepreneurship Education Research.

**HO<sub>2</sub>:** There is no significant difference in the mean responses of the male and female business educators on the limited knowledge-related challenge of citation management AI in Business and Entrepreneurship Education Research.

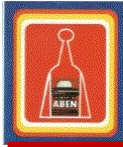
Data collected to test hypothesis 1 are presented in Table 5.

**Table 5: Summary of t-test Analysis of the Mean Responses of the Respondents on the Limited Knowledge Related-Challenge of Citation Management AI**

| Variables | N  | X    | SD   | DF | <u>t-cal</u> | t-crit | Decision  | Remark |
|-----------|----|------|------|----|--------------|--------|-----------|--------|
| Male      | 24 | 3.20 | 0.74 | 39 | 0.16         | 2.04   | Accept HO | NSD    |
| Female    | 17 | 3.19 | 0.76 |    |              |        |           |        |

Table 5 above reveals t-calculated value of 0.16 and t-critical of 2.04 at 39 degree of freedom. From the table, since the t-calculated is less than the critical t-value, the researcher upholds the null hypothesis and concludes that there is no significant difference in the opinion of the respondents regarding the limited knowledge-related challenge of citation management AI in Business and Entrepreneurship Education Research.

**HO<sub>3</sub>:** There is no significant difference in the mean responses of the male and female business educators on the limited knowledge-related challenge of data analytic AI in Business and Entrepreneurship Education Research



Data collected to test hypothesis 1 are presented in Table 6.

**Table 6: Summary of t-test Analysis of the Mean Responses of the Respondents on the Limited Knowledge Related-Challenge of Data Analytic AI**

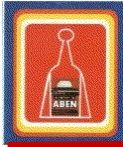
| Variables | N  | X    | SD   | DF | t-cal | t-crit | Decision  | Remark |
|-----------|----|------|------|----|-------|--------|-----------|--------|
| Male      | 24 | 3.31 | 0.77 | 39 | 0.61  | 2.04   | Accept HO | NSD    |
| Female    | 17 | 3.25 | 0.61 |    |       |        |           |        |

Table 6 above reveals t-calculated value of 0.61 and t-critical of 2.04 at 39 degree of freedom. From the table, since the t-calculated is less than the critical t-value, the researcher upholds the null hypothesis and concludes that there is no significant difference in the opinion of the respondents regarding the limited knowledge-related challenge of data management AI in Business and Entrepreneurship Education Research.

**Discussion of Findings**

The finding of research question one disclosed that the respondents accepted limited knowledge related-challenges of paraphrasing AI in business and entrepreneurship education research. The finding of the study corroborates the finding of Anyigor-Ogah (2024) who stated that business educators utilized digital technology to a low extent. The findings that the respondents accepted limited Knowledge related-challenges of paraphrasing AI in business and entrepreneurship education research is not surprising to the researcher considering the fact that there are lack of capacity building programmes as well as ICT skills training and re-training for researchers in the study area to update their ICT skills to enhance their professional practice. This, the researcher believed might have contributed to respondents' limited knowledge in paraphrasing AI in business and entrepreneurship education research. The test of hypothesis (**HO<sub>1</sub>**) in Table 3 proved that there no significant differences in the mean responses of the male and female respondents on the limited knowledge related-challenges of paraphrasing AI in business and entrepreneurship education research. The finding is in agreement with Igboke and Anyigor-Ogah (2021); and Anyigor-Ogah, (2023c) who found that there was no significant difference in the opinion of male and female respondents on the usage of technology in Business Education.

The result in Table 2 indicate that the respondents accepted limited Knowledge related-challenge of citation management AI in business and entrepreneurship education research. The finding is in line with Somasundaram (2023) who noted that the consequences of inadequate reference and citation management are far-reaching. He added that researchers may inadvertently misattribute ideas or fail to give proper credit to the original authors, leading to issues of plagiarism or intellectual dishonesty. More so, lack of structural reference management system can result in a loss of productivity, as valuable time is wasted on manually sorting through citations and formatting according to different citations styles. This not only hampers the researcher's efficiency but also affects the quality and reliability of their work. Therefore, in the fast-paced world of academic and research, proper citation management is essential for maintaining the integrity and credibility of scholarly work. Also, the test of hypothesis (**HO<sub>2</sub>**) in Table 5 proves that there is no



significant difference in the opinion of male and female respondents regarding the limited knowledge-related challenge of citation management AI in Business and Entrepreneurship Education Research. The findings are in agreement with Anyigor-Ogah (2023d) and Anyigor-Ogah & Okoli, (2024) who found that there is no significant difference in the opinion of male and female respondents on the knowledge of digital technologies in Business education.

The result in Table 3 indicate that the respondents accepted limited Knowledge related-challenge of data analytic AI in business and entrepreneurship education research. The findings is in line with Owen (2024) who stated that limited knowledge related-challenge of AI remains a significant barriers to its widespread adoption. Also, the test of hypothesis ( $H_{O3}$ ) in Table 6 proves that there is no significant difference in the opinion of male and female respondents regarding the limited knowledge-related challenge of data analytic AI in Business and Entrepreneurship Education Research. The finding is in agreement with Anyigor-Ogah (2023b); and Egba, Oko, Egba, Achimugu and Achimugu (2018) who found that there were no significant difference in the opinion of male and female respondents on technology awareness in business education.

### Conclusions

Based on the findings of the study, it was concluded that limited knowledge related-challenges of paraphrasing, citation management and data analytic artificial intelligence in business and entrepreneurship education research was accepted. This implies that business and entrepreneurship education researchers in the study area had limited knowledge of Artificial Intelligence (AI) for research. Also, it was concluded that gender does not significantly affect respondents' mean ratings on the limited knowledge related-challenges of paraphrasing AI, citation management AI, and data analytic AI in business and entrepreneurship education research.

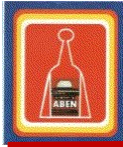
### Recommendations

Based on the findings of the study, it was recommended:

1. Training opportunities should be provided for researchers to ensure comprehension of paraphrasing AI concept, use cases and potential effects by business and entrepreneurship education researchers.
2. Enabling accessible resources on citation management AI should be provided to business and entrepreneurship education researchers to empower the researchersto use AI technology more effectively.
3. Business and entrepreneurship education researchers should bridge the knowledge gap through interdisciplinary collaboration to help them overcome the limited knowledge related challenge of data analytic AI in research.

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